State of California
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

ORDER NO. 98-046

NPDES NO. CA0056227

WASTE DISCHARGE REQUIREMENTS FOR CITY OF LOS ANGELES (Donald C. Tillman Water Reclamation Plant)

The California Regional Water Quality Control Board, Los Angeles Region (hereafter Regional Board), finds:

Regulation of Discharge

1. The City of Los Angeles (hereafter City or Discharger) discharges waste from the Donald C. Tillman Water Reclamation Plant (hereafter Tillman Plant or Plant) under Waste Discharge Requirements (WDRs) contained in Order No. 91-102 adopted by this Regional Board on September 9, 1991 and amended on April 13, 1998 to incorporate new chloride limits. This Order serves as the National Pollutant Discharge Elimination System (NPDES) permit (NPDES No. CA0056227).

2. The City has filed a report of Waste Discharge and has applied for renewal of its waste discharge requirements and National Pollutant Discharge Elimination System (NPDES) permit.

3. The Regional Board is in the process of implementing a Watershed Management Approach to address water quality protection in the Los Angeles River watershed. Accordingly, the Regional Board is reviewing the WDRs and NPDES permits for the facilities that discharge wastes to the Upper Los Angeles River (including the Tillman Plant).

4. The City maintains and operates the Hyperion Service Area (HSA) which collects, treats, and processes municipal wastewater from domestic, commercial, and industrial sources from the entire city (except the Terminal Island Service Area surrounding the Los Angeles Harbor area) and from a number of cities and other agencies under contractual agreements. There are approximately 4 million people living in the HSA with approximately 1 million people served by the Tillman Plant.

   The Tillman Plant is one of the two upstream water reclamation plants in the HSA. The other upstream plant is the Los Angeles/Glendale Water Reclamation Plant.

May 14, 1998
June 1, 1998
Revised June 15, 1998

5. The Tillman Plant, located at 6100 Woodley Avenue, Van Nuys, California, is operated by the City's Department of Public Works, Bureau of Sanitation (see Attachment 1 - Location Map), and consists of two identical treatment trains (Phases I and II), each with a dry weather average design capacity of 40 million gallons per day (mgd).

6. The use of reclaimed water from the Tillman Plant is regulated under Water Reclamation Requirements contained in Order Nos. 97-072 and 86-039. Current uses include maintaining flows in the Japanese Garden Lake, Lake Balboa, and the Wildlife Lake in the Sepulveda Basin. Other options as approved include water truck delivery for landscape irrigation, street cleaning, graffiti removal, and construction-related dust control.

7. On September 18, 1995, the Regional Board adopted Water Reclamation Requirements (Order No. 95-133) and Monitoring and Reporting Program (CI 7599) for the East Valley Water Recycling Project Phase-1A Demonstration (EVWRP-1A). This project would divert tertiary treated reclaimed water from the Tillman Plant to the Hansen Spreading Grounds for ground water recharge of the San Fernando Basin. A virus study monitoring program must be completed prior to initiating ground water recharge with reclaimed water. The virus study is to evaluate the virus inactivation capability of the Hardinge Automatic Backwash Traveling Bridge Filters (Hardinge Filters). The City has to complete the sampling and testing protocols and the study to comply with the requirements of the State of California Department of Health Services (Drinking Water Field Operations Branch).

8. The U.S. Environmental Protection Agency (USEPA) and the Regional Board have classified the discharge from the Tillman Plant as a major discharge.

Description of the Facility

9. Phase I of the Tillman Plant start-up began in June 1984, with all effluent from the Hardinge-type, rapid sand filters being returned to the Additional Valley Outfall Relief Sewer (AVORS). In 1985, the Plant actually started discharging to the Los Angeles River.

   Phase II, an integral part of the City's Wastewater Facilities Plan, was constructed in compliance with Cease and Desist Order (CDO) No. 86-002, issued by this Regional Board to the City in January 1986, following numerous incidents of dry weather overflows of untreated sewage to Ballona Creek from the Jackson Avenue Overflow Structure. The CDO required that the City shall operate both Phases I and II of the Tillman Plant at a dry weather average treatment capacity of 80 mgd by September 15, 1991.

10. When the CDO was issued in 1986, sewage flows to the Tillman Plant averaged 80 mgd. Hydrographs from October 1989 and June 1990 showed an average flow of 63.5 mgd, representing a 20 percent reduction when compared with 1986 data. Water conservation measures have impacted sewage flows with the average flows at approximately 60 mgd since 1990. Therefore, the Tillman Plant has the capacity but does not treat 80 mgd.

11. Sewage enters the Tillman Plant via both AVORS and the East Valley Interceptor Sewer (EVIS) from the communities of Chatsworth, Canoga Park, West Hills, Woodland Hills, Northridge, Granada Hills, and Van Nuys, and from the City of San Fernando, the Las Virgenes Municipal Water District, and the Triunfo Canyon Sanitation District under contractual agreements.

12. Treatment at the Tillman Plant consists of grit removal, screening, flow equalization, primary sedimentation, activated sludge biological treatment with fine pore aeration, secondary clarification, coagulation, mixed dual media filtration (Hardinge Filters), disinfection by chlorination, and dechlorination (see Attachment 2 for the plant flow diagram).

13. Wastestreams from the Plant are returned to the collection system for ultimate treatment and processing at the Hyperion Treatment Plant. Wastestreams returned to the sewer consist of grit, primary and secondary sludge and skimmings, and filter backwash (approximately 10 mgd).

Discharge Quality

14. In 1997, the average annual removal of BOD and total suspended solids was 99% and 96%, respectively. The average reclaimed water flow was 56 mgd.

15. The characteristics of the treated wastewater discharged into the Los Angeles River in 1997 were as follows:

Constituent	Unit	Annual Average	Minimum	Maximum
Flow	mgd	56.1	42.6	84.9
pH	pH units	7.1	6.9	7.2
Temperature	°F	77	69	86
BOD_5 20°C	mg/L	9.0	8	11
Suspended solids	mg/L	2.0	2.0	3.0
Settleable solids	ml/L	<0.1	--	0.2
Total dissolved solids	mg/L	475	402	528
Turbidity	NTU	1.2	1.0	2.0
Total chlorine residual	mg/L	<0.01	--	--
Sulfate	mg/L	101	72	122
Chloride	mg/L	107	81	124
Total coliform	CFU/100ml	<1	<1	18
Oil and grease	mg/L	1.0	ND	1.0
Ammonia-N	mg/L	18	15.3	20.4
Nitrate-N	mg/L	2.0	0.7	5.9
Nitrite-N	mg/L	0.8	0.4	0.9
MBAS	mg/L	0.2	0.1	0.6

Tillman Plant Discharge Outfalls and the Los Angeles River

16. Tillman effluent not diverted for reclaimed uses is discharged to the upper Los Angeles River, a water of the United States, at a point 878 feet downstream of the Sepulveda Dam Spillway (Discharge Serial No. 008: Latitude 34° 09' 54", Longitude 118° 28' 15"), above the estuary (see Attachment 1 - Discharge Outfalls).

17. The 100-year flood water surface elevation under the "U.S. Corps of Engineers Modified Spillway Gate Operating Plan" for the Sepulveda Basin is 714.4 feet. The City's Department of Public Works in 1994 completed construction of a berm around the Tillman Plant to elevation 715 feet. The City also completed construction in 1993 of Discharge Serial No. 008, downstream of the Sepulveda Dam and downstream of Discharge Serial No. 001, which was formerly used as the discharge outfall for the Tillman Plant prior to the use of Discharge Serial No. 008. Discharge Serial No. 001 is now inactive but is still in place. The berm and new outfall (Discharge Serial No. 008) were measures necessary to protect the Tillman Plant from flood conditions.

18. The City is currently using reclaimed water to maintain the Japanese Garden, the recreation lake (Lake Balboa), and the Wildlife Lake. The wildlife and recreation lakes are operated and maintained by the City's Department of Recreation and Parks. The Department of Recreation and Parks has developed management plans for these lakes. These plans discuss measures to be implemented in the operation, maintenance, and monitoring of the lakes.

19. The Department of Recreation and Parks has used up to 17 mgd of reclaimed water in the 27.5 acre Lake Balboa. The reclaimed water is discharged from the Tillman Plant to the lake at southeast corner of Victory and Balboa Boulevards, Los Angeles, (Discharge Serial No. 002: Latitude 34^0 10' 38", Longitude 118^0 28'20"). The reclaimed water flows through the lake and eventually discharges through weirs, spillways and a bottom drain to three outfalls: at Bull Creek (Lake Discharge Serial No. 004), Hayvenhurst Channel (Lake Discharge Serial No. 005), and Los Angeles River (Lake Discharge Serial No. 006). Bull Creek and Hayvenhurst Channel are tributaries to the Los Angeles River above the estuary (see Attachment 3 - Schematic Flow Diagram).

20. The Department of Recreation and Parks uses approximately 5 mgd of reclaimed water for the Wildlife Lake and approximately 2 mgd in Haskell Flood Control Channel during September through May. The reclaimed water flows by gravity to the Wildlife Lake located northeast of Burbank Boulevard and Woodley Avenue (Discharge Serial No. 003: Latitude 34^0 10' 38", Longitude 118^0 28' 20"). The reclaimed water flows through the 10 acre Wildlife Lake and is discharged to the Haskell Flood Control Channel (Lake Discharge Serial No. 007), thence to the Los Angeles River, above the estuary (see Attachment 3 - Schematic Flow Diagram).

    During the summer months, the Wildlife Lake may be drained (for maintenance and to minimize nuisance resulting from mosquito breeding), and discharge of reclaimed water to Haskell Flood Control Channel will be increased up to 5 mgd.

21. Storm water in the Tillman Plant is collected by a storm drain with the initial flush discharged to the AVORS sewer for treatment. After collection of the initial flush, stormwater is discharged to the Los Angeles River.

Watershed Approach

22. This Regional Board has implemented a Watershed Management Approach to address water quality protection in the Los Angeles Region. The objective is to provide a comprehensive and integrated strategy resulting in water resource protection, enhancement, and restoration while balancing economic and environmental impacts within a hydrologically-defined drainage basin or watershed. The Management Approach emphasizes cooperative relationships between regulatory agencies, regulated community, environmental groups, and other stakeholders in the watershed to achieve the greatest environmental improvements with the resources available. This Order fosters the implementation of this approach by protecting beneficial uses in the watershed and requiring the City to participate in the implementation of a regional monitoring program.

23. Pursuant to this Regional Board's watershed initiative framework, the Los Angeles River Watershed Management Area is the targeted watershed for fiscal years 1997-1999. The Los Angeles River watershed encompasses an area of about 825 square miles. Of those, approximately 324 square miles are covered by forest and open space land within the Angeles National Forest, the Santa Monica Mountains, the Verdugo Mountains and Griffith Park in the Upper watershed. The rest of the watershed is highly developed. The urban area in the upper watershed consists mostly of residential and commercial areas, while the area in the lower watershed consists of industrial, residential and commercial areas.

Waste Discharge Requirements and their Bases

Basin Plan

24. On June 13, 1994, this Regional Board adopted a revised *Water Quality Control Plan, Los Angeles Region: Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties* (Basin Plan). The Basin Plan contains beneficial uses and water quality objectives for the Los Angeles River.

Beneficial Uses

25. The beneficial uses of the receiving water are:

Los Angeles River upstream of Figueroa Street - Hydrologic Unit 405.21

Existing:	ground water recharge; contact and non-contact water recreation; warm freshwater habitat; wildlife habitat; and wetland habitat.
Potential:	municipal and domestic supply[1]; and industrial service supply.

Los Angeles River downstream of Figueroa Street - Hydrologic Unit 405.15

Existing:	ground water recharge; contact[2] and non-contact water recreation; and warm freshwater habitat.
Potential:	municipal and domestic supply[1]; and industrial service supply.

[1] Municipal and domestic supply designations under State Water Resources Control Board Order No. 88-063 and Regional Board Resolution No. 89-003.

[2] Access prohibited by Los Angeles County Department of Public Works.

Los Angeles River downstream of Figueroa Street - Hydrologic Unit 405.12

Existing: ground water recharge; contact[2] and non-contact water recreation; warm freshwater habitat; marine habitat; wildlife habitat; and rare, threatened, or endangered species.

Potential: municipal and domestic supply[1]; industrial service supply; industrial process supply; migration of aquatic organisms; spawning, reproduction, and/or early development; and shellfish harvesting[2].

Los Angeles River Estuary - Hydrologic Unit 405.12

Existing: industrial service supply; navigation; contact and non-contact water recreation; commercial and sport fishing; estuarine habitat; marine habitat; wildlife habitat; rare, threatened, or endangered species[3]; migration of aquatic organisms[4]; spawning, reproduction, and/or early development[4]; and wetland habitat.

Potential: shellfish harvesting.

The requirements in this order are intended to protect designated beneficial uses and enhance the water quality of the watershed.

Pollutants of Concern and Impairments

26. The 1996 State Water Resources Control Board's (SWRCB) *Water Quality Assessment Report* identified the water quality condition of water bodies in the Los Angeles Region. In the Los Angeles River, the following beneficial uses were determined to be either impaired or threatened to be impaired: aquatic life, contact and non-contact recreation. The report also identified that the quality of the water is impacted by bacteriological contamination (coliform count), heavy metals (lead and silver), ammonia, nitrogen, nutrients (algae), oil, pH, total dissolved solids, chloride, turbidity, trash, scum, and odor.

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[3] One or more rare species utilize all ocean, bays, estuaries, and coastal wetlands for foraging and/or nesting.

[4] Aquatic organisms utilize all bays, estuaries, lagoons, and coastal wetlands, to a certain extent, for spawning and early development. This may include migration into areas which are heavily influenced by freshwater inputs.

Human Health

27. There is public contact in the downstream areas of the receiving water; therefore, the quality of wastewater discharged to the Los Angeles River must be such that no public health hazard is created.

Nutrients

28. The Federal Clean Water Act requires that each state provides a list of impaired surface waters (303(d) list). Water bodies on the 303(d) list must have Total Maximum Daily Loads (TMDLs) established.

The Los Angeles River is included in the 303(d) list due to ammonia and nitrogen pollution. The Regional Board has conducted a TMDL which assessed the extent of the ammonia and total nitrogen problem and sources in the Los Angeles River during dry weather conditions. The draft Los Angeles River nitrogen TMDL proposes future effluent limits for the existing POTWs which will result in achievement of Basin Plan objectives in the river. The proposed effluent limits for the Tillman Plant are:

Total nitrogen	8 mg/L
Ammonia-N	4 mg/L

The Discharger will have until the year 2002 to: (a) meet the Basin Plan objective by making the necessary adjustments/improvements to meet the above limits, or (b) conduct studies leading to an approved site specific objective for ammonia.

29. Phosphorus also contributes to the algae growth in the Los Angeles River, this permit contains provisions to monitor the amount of phosphorous that the Tillman Plant discharges into the Los Angeles River.

Methyl Tertiary Butyl Ether

30. Methyl Tertiary Butyl Ether (MTBE) is a major component of gasoline and has been detected in drinking water wells throughout California. The threat to human health from MTBE is being evaluated at this time by the USEPA and the California Department of Health Services.

Toxic Constituents

31. Numeric toxic constituent limitations are prescribed for this discharge pursuant to the narrative water quality objective in the Basin Plan for toxic constituents and 40 CFR Part 122.44. The numeric toxic limitations are based on Basin Plan Objectives, USEPA's Water Quality Criteria, and the National Toxics Rule.

For toxic constituents that have not been consistently detected in the effluent and have been determined to have no reasonable potential for causing or contributing to excursions in water quality objectives, no numerical limitations are prescribed. Instead, a narrative limit to comply with all water quality requirements is provided in lieu of such numerical limitations.

Performance Goals

32. The Regional Board has implemented the Water Quality Task Force[5] recommendations on the use of performance goals, rather than performance-based limits, when appropriate. The use of performance goals is intended to minimize pollutant loadings and at the same time maintain the incentive for future voluntary improvement of water quality wherever feasible, without fear of being punished with more stringent limits based on improved performance. This Order contains performance goals.

The performance goals require the Discharger to maintain its treatment efficiency while recognizing normal variations in treatment plant operations, influent quality, and sampling and analytical techniques. This approach, however, does not address substantial changes in operations that may occur in the future and could affect the quality of the treated effluent. As such, this Order provides that performance goals may be modified by the Executive officer, if warranted. The listed effluent performance goals are not enforceable limitations or standards.

33. The performance goals prescribed in this Order are based on the following:

(a) For pollutants which have been detected in the effluent, performance goal of a constituent is statistically set at the 95th percentile confidence level of the January 1993 through December 1997 monitoring data. Therefore, it is expected that one sample in twenty may exceed the goal during normal plant operation in the long-term.

(b) For other pollutants whose monitoring data have consistently showed nondetectable levels, or which have been occasionally detected at levels less than the Practical Quantitation Levels (PQL), the effluent quality performance goals are set at the PQL. The PQL is determined by multiplying the USEPA published method detection limit or the Discharger's method detection limit approved by the executive Officer with the factor five (5) for carcinogens or non-classified compounds and ten (10) for non-carcinogens.

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[5] *Working Together for an Affordable Clean Water Environment.* A final report presented to the California Regional Water Quality Control Board, Los Angeles Region by Water Quality Advisory Task Force, September, 1993.

State and Federal Regulations

34. Effluent limitations, toxic, and pretreatment effluent standards, established pursuant to Sections 208(b), 301, 302, 303(d), 304, 307, 403, and 405 of the Federal Clean Water Act and amendments thereto, are applicable to this discharge.

35. Pursuant to 40 CFR Part 403, the City developed and has implemented a USEPA-approved industrial wastewater pretreatment program. This Order requires proper implementation of the pretreatment program.

36. Section 402(p) of the Clean Water Act, as amended by the Water Quality Act of 1987, requires NPDES permits for storm water discharges. Pursuant to this requirement, in 1990, the USEPA promulgated 40 CFR Part 122.26 which established requirements for storm water discharges under NPDES program. To facilitate compliance with federal regulations, in 1992, the State Water Resource Control Board issued a statewide general permit [NPDES No. CAS000001, reissued on April 17, 1997] to regulate storm water discharges associated with industrial activity. The Tillman Plant is covered by that general permit and its requirements are incorporated in this Order by reference.

37. The requirements contained in this Order were derived using best professional judgement and are based on the Basin Plan, Federal and State plans, policies, guidelines; and, as they are met, will be in conformance with the goals of the aforementioned water quality control plans, water quality criteria, and will protect and maintain existing and potential beneficial uses of the receiving water.

38. The issuance of waste discharge requirements for this discharge is exempt from the provisions of Chapter 3 (commencing with §21100, et. seq.), Division 13, Public Resources Code pursuant to California Water Code §13389.

The Regional Board has notified the Discharger and interested agencies and persons of its intent to renew waste discharge requirements for this discharge and has provided them with an opportunity to submit their written views and recommendations.

The Regional Board, in a public hearing, heard and considered all comments pertaining to the discharge and to the tentative requirements.

This Order shall serve as a National Pollutant Discharge Elimination System permit pursuant to §402 of the Federal Clean Water Act, or amendment thereto, and shall take effect at the end of ninety one days from the date of its adoption provided the Regional Administrator of the USEPA has no objections.

IT IS HEREBY ORDERED that the City of Los Angeles, as operator of the Tillman Plant, in order to meet the provisions contained in Division 7 of the California Water Code and

regulations adopted thereunder, and the provisions of the Federal Clean Water Act and regulations and guidelines adopted thereunder, shall comply with the following:

I. DISCHARGE REQUIREMENTS

A. Effluent Limitations

1. Wastes discharged shall be limited to tertiary treated municipal wastewater only, as proposed.

2. The discharge of an effluent with constituents in excess of the following limits is prohibited:

(a) Conventional and nonconventional pollutants:

Constituent	Units	Discharge Limitations[1] Monthly Average	7-Day Average[2]	Daily Maximum[3]
BOD_5 20°C	mg/L	20	30	45
	lbs/day[4]	13,300	20,000	30,000
Chloride	mg/L	--	--	190
	lbs/day[4]	--	--	13,000
Detergents (as MBAS)	mg/L	--	--	0.5
	lbs/day[4]	--	--	330
Fluoride	mg/L	--	--	2.0
	lbs/day[4]	--	--	1,380
Nitrite-N (as N)	mg/L	--	--	1
	lbs/day[4]	--	--	670
Nitrite+Nitrate-N (as N)	mg/L	--	--	8
	lbs/day[4]	--	--	5,300
Oil and grease	mg/L	10	--	15
	lbs/day[4]	6,700	--	10,000
Settleable solids	ml/L	0.1	--	0.3
Sulfate	mg/L	--	--	300
	lbs/day[4]	--	--	200,000
Suspended solids	mg/L	15	40	45
	lbs/day[4]	10,000	27,000	31,000
Total dissolved solids	mg/L	--	--	950
	lbs/day[4]	--	--	634,000
Total residual chlorine[12]	mg/L	--	--	0.1
	lbs/day[4]	--	--	67

(c) Toxic pollutants (pesticides/PCBs):

		Discharge Limitations[1,4]	
Constituent	Units	Monthly Average	Daily Maximum[3]
Dieldrin	µg/L	0.0019	2.5
DDT[9]	µg/L	0.001	1.1
Endosulfan-alpha	µg/L	0.056	0.22
Endosulfan-beta	µg/L	0.056	0.22
Endrin	µg/L	0.0023	0.18
Lindane	µg/L	0.08	0.2
Toxaphene	µg/L	0.0002	0.73
PCBs[10]	µg/L	0.014	0.5

(d) Toxic pollutants (volatile organics):

Constituent	Units	Discharge Limitations[1,4] Monthly Average	Daily Maximum[3]
Benzene	µg/L	--	1
Bromodichloromethane	µg/L	--	100
Chloroform	µg/L	--	100
Dibromochloromethane	µg/L	--	100
1,4-dichlorobenzene	µg/L	--	5
1,2-dichloroethane	µg/L	--	0.5
Ethylbenzene	µg/L	--	700
Methylene chloride	µg/L	--	5
Tetrachloroethylene	µg/L	--	5
Toluene	µg/L	--	150

(e) Toxic pollutants (base/neutral extractables):

Constituent	Units	Discharge Limitations[1,4] Monthly Average	Daily Maximum[3]
Bis(2-ethylhexyl)phthalate	µg/L	--	4
PAHs[11]	µg/L	--	0.2

(f) Toxic Pollutants (Miscellaneous):

Constituent	Units	Discharge Limitations[1,4] Monthly Average	Daily Maximum[3]
Cyanide	µg/L	5.2	22

Footnotes to discharge limitations:

[1] If the constituent limit is less than the method detection limit, compliance with the constituent limit shall be based on the PQL (Practical Quantitation Level). PQL shall be determined by multiplying the USEPA method detection limit (MDL) shown in Attachment 1 or the Discharger's performance MDL approved by the Executive Officer, with the factors five (5) for carcinogens or non-classified compounds, and ten (10) for noncarcinogens. If the constituent limit is between the method detection limit and PQL, compliance with the constituent limit may be based on a 95th percentile of a distribution of samples taken within a month rather than one single sample.

[2] As defined in Standard Provisions, Attachment N.

[3] The daily maximum effluent concentration limit shall apply to both flow weighted 24-hour composite samples and grab samples, as specified in the Monitoring and Reporting Program (Attachment T).

[4] The mass emission rate limitations shall be determined by multiplying the plant design flow rate of 80 mgd by the respective concentration limit.

[5] Concentrations expressed as total recoverable metals, and corresponded to a total hardness of 100 mg/L and water effect ratio of 1.0. For other conditions, the limits can be calculated by following 40 CFR §131.36(b)(2) and/or a water effect ratio study according to USEPA guidance documents and/or state protocols, if applicable.

[6] The discharger has the option to meet the hexavalent chromium limitations with a total chromium analysis. However, if the total chromium level exceeds the hexavalent chromium limitation, it will be considered a violation unless an analysis has been made for hexavalent chromium in replicate sample and the result shows within the hexavalent chromium limits. Concentrations are expressed as total recoverable hexavalent chromium and corresponded to a water effect ratio of 1.0. For other conditions, the limits can be calculated by following a water effect ratio study according to USEPA guidance documents and/or state protocols, if applicable.

[7] Concentrations expressed as total recoverable. The daily maximum concentration corresponds to a water effect ratio of 1.0. For other conditions, the limits can be calculated by following a water effect ratio study according to USEPA guidance documents and/or state protocols, if applicable.

[8] Concentration expressed as total recoverable.

[9] DDT shall mean the sum of the p,p' and o,p' isomers of DDT, DDD, and DDE. The PQL for DDT will be calculated on the basis of the MCL for DDT.

[10] PCBs (polychlorinated biphenyls) shall mean the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, and Aroclor-1260.

[11] PAHs (polynuclear, aromatic hydrocarbons) shall mean the sum of acenaphtylene, anthracene, 1,2-benzanthracene, 3,4-benzofluoranthene, benzo[k]fluoranthene, 1,12-benzoperylene, benzo[a]pyrene, chrysene, dibenzo[ah]anthracene, fluorene, ideno[1,2,3-cd]pyrene, phenanthrene, and pyrene. The PQL for PAHs will be calculated on the basis of the MCL for benzo[a]pyrene.

[12] Total residual chlorine concentration excursions of up to 0.3 mg/l shall not be considered in violation of this requirement provided the total duration of such excursions do not exceed 15 minutes during any 24-hour

Footnotes to discharge limitations (continued):

period. Peaks in excess of 0.3 mg/l lasting less than one minute while changing sulfur dioxide tanks shall not be considered in violation of this requirement.

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3. The pH of wastes discharged shall at all times be within the range of 6.0 to 9.0.

4. The temperature of wastes discharged shall not exceed 100°F.

5. Radioactivity of the wastes discharged shall not exceed the limits specified in Title 22, Chapter 15, Article 5, Section 64443, of the California Code of Regulations, or subsequent revisions.

6. The arithmetic mean of BOD_5 20°C and suspended solids values, by weight, for effluent samples collected in a period of any monthly period shall not exceed 15 percent of the arithmetic mean of values, by weight, for influent samples collected at approximately the same time during the same period.

7. The wastes discharged to water courses shall at all times be adequately disinfected. For the purpose of this requirements, the wastes shall be considered adequately disinfected if the median number of coliform organisms at some point in the treatment process does not exceed 2.2 per 100 milliliters, and the number of coliform organisms does not exceed 23 per 100 milliliters in more than one sample within any monthly period. The median value shall be determined from the bacteriological results of the last seven (7) days for which analysis has been completed. Samples shall be collected at a time when wastewater flow and characteristics are most demanding on treatment facilities and disinfection processes.

8. The wastes discharged to water courses shall have received treatment equivalent to that of filtered wastewater. Filtered wastewater means an oxidized, coagulated, and clarified wastewater that has been passed through natural undisturbed soils or filter media, such as sand or diatomaceous earth, so that the turbidity of the filtered wastewater does not exceed any of the followings: (a) a daily average of 2 Nephelometric turbidity units (NTUs); and (b) 5 NTUs more than 5 percent of the time (72 minutes) during any 24 hour period.

   During storm events when the plant is treating more than 10% in excess of its treatment design capacity to minimize the potential of overflows in the sewage collection system downstream of the plant, the turbidity of the filtered wastewater shall not exceed any of the followings: (a) a daily average of 5 NTUs in the first 24 hours following the end of the storm event; (b) a daily average of 3 NTUs between 24 and 48 hours after the end of the storm event; and (c) 10 NTUs at any time.

"Oxidized wastewater" means wastewater in which the organic matter has been stabilized, is nonputrescible, and contains dissolved oxygen. "Coagulated wastewater" means oxidized wastewater in which colloidal and finely divided suspended matter have been destabilized and agglomerated upstream of a filter by the addition of suitable floc-forming chemicals.

9. Acute Toxicity Limitation:

The acute toxicity of the effluent shall be such that the average survival in the undiluted effluent for any three (3) consecutive 96-hour static or continuous flow bioassay tests shall be at least 90%, with no single test less than 70% survival.

If the acute toxicity limitation is violated three consecutive months, the Discharger shall conduct a toxicity identification evaluation (TIE). The TIE shall include all reasonable steps to identify the sources of toxicity. Once the sources are identified, the Discharger shall take all reasonable steps to reduce toxicity to meet the objective.

10. To protect underlying ground water basins, ammonia shall not be present in the wastes discharged at levels that, when oxidized to nitrate, pose a threat to ground water quality.

B. Effluent Quality Performance Goals

The discharger shall make best efforts to maintain the following effluent quality goals. Exceedance of any goal shall trigger an investigation by the Discharger on the causes of the exceedance. The Discharger shall report to the Regional Board on a quarterly basis any exceedance of these effluent quality goals. If exceedance of any particular goal persists on two succeeding quarterly monitoring periods, the second quarterly report shall contain the results of the Discharger's investigation including but not be limited to the description of the exceedance, cause(s) of the exceedance, and proposed corrective measures, if necessary.

The Executive Officer may modify any of the performance goals upon demonstration by the discharger that the change is warranted.

Constituent	Units	Effluent Quality Performance Goals[1] Monthly Average
BOD_5 20°C	mg/L	11
Suspended solids	mg/L	4
Oil and grease	mg/L	4.4
Arsenic	µg/L	15
Nickel	µg/L	50
Zinc	µg/L	71
Bromoform	µg/L	3
Lindane	µg/L	0.05
Chloroform	µg/L	18
Ethylbenzene	µg/L	1
Bromodichloromethane	µg/L	5
Dibromochloromethane	µg/L	7
Toluene	µg/L	3
Remaining priority pollutants (Attachment 1)	µg/L	PQL[2]

Footnotes to effluent quality performance goals:

[1] Numerical effluent quality performance goals were derived statistically using effluent performance data from January 1993 through December 1997. Effluent values (x_i) are assumed to be lognormally distributed. The use of logarithmic transformation equation, $Y_j = \text{Ln}\ (x_j)$, results in effluent values (Y_i) that are normally distributed. Effluent quality performance goals are determined using the mean (u_n) and the standard deviation (σ_n) of the distribution of the average using the equation:

$$x_{95th} = \exp\ [u_n + (Z_{0.95})\ \sigma_n)\ ]$$

where

x_{95th} = Discharge effluent quality performance goal at the 95th percentile of the normal distribution.
u_n = Mean distribution of the average (transformed).
$Z_{0.95}$ = Z-value from the Table of Areas under the Standard Normal Curve: equal to 1.645 at 95 percent.
σ_n = Standard deviation of the average transformed.
Exp is an exponential to the base "e" value = 2.7183

[2] PQL (Practical Quantitation Level) shall be determined by multiplying the USEPA published method detection limit (MDL) (Attachment 1) or the Discharger's MDL, approved by the Executive Officer, with the factor five (5) for carcinogens or non-classified compounds and ten (10) for non-carcinogens.

C. Receiving Water Limitations

Receiving water limitations apply to direct discharge from the Tillman Plant (Discharge Serial Nos. 001, 002, 003, and 008) and discharges from the wildlife and recreation lakes (Lake Discharge Serial Nos. 004, 005, 006, and 007).

1. The temperature of the receiving water at any time shall not be raised above 80 °F as a result of the wastes discharged.

2. The pH of the receiving water shall not be depressed below 6.5 or raised above 8.5 as a result of wastes discharged.

3. The dissolved oxygen in the receiving water shall not be depressed below 5 mg/L as a result of the wastes discharged.

4. The residual chlorine in the receiving water shall not exceed 0.1 mg/L as a result of the wastes discharged.

5. The fecal coliform concentration in the receiving water shall not exceed a log mean of 200/100 ml (based on a minimum of not less than four samples for any 30-day period), nor shall more than 10% of total samples during any 30-day period exceed 400/100 ml as a result of the wastes discharged.

6. The wastes discharged shall not produce concentrations of toxic substances in the receiving water that are toxic to or cause detrimental physiological responses in human, animal, or aquatic life.

7. The wastes discharged shall not contain substances that result in increases in the BOD which adversely affect the beneficial uses of the receiving waters.

8. The wastes discharged shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that such growth causes nuisance or adversely affects beneficial uses of the receiving waters.

9. The wastes discharged shall not cause the receiving waters to contain any substance in concentrations that adversely affect any designated beneficial use.

10. The wastes discharged shall not alter the color of the receiving waters; create a visual contrast with the natural appearance of the water; nor cause aesthetically undesirable discoloration of the receiving waters.

11. The wastes discharged shall not degrade surface water communities and populations, including vertebrate, invertebrate, and plant species.

12. The wastes discharged shall not result in problems due to breeding of mosquitos, gnats, black flies, midges, or other pests.

13. The wastes discharged shall not result in visible floating particulates, foams, and oil and grease in the receiving waters.

14. The wastes discharged shall not contain any individual pesticide or combination of pesticides in concentrations that adversely affect beneficial uses of the receiving waters. There shall be no increase in pesticide concentrations found in bottom sediments or aquatic life.

15. The wastes discharged shall not alter the natural taste, odor, and color of fish, shellfish, or other surface water resources used for human consumption.

16. The wastes discharged shall not increase the turbidity of the receiving waters to the extent that such an increase causes nuisance or adversely affects beneficial uses.

17. The Department of Parks and Recreation shall manage the recreation lake and wildlife lake such that beneficial uses of the receiving water are not impaired.

D. Receiving Water Objectives

1. To protect aquatic life, ammonia in receiving waters shall not exceed concentrations specified in Tables 3-2 and 3-4 of the Basin Plan (Attachment 4) as a result of the wastes discharged, subject to the following conditions:

   The Discharger will have until the year 2002 to: (a) make the necessary adjustments/improvements to meet these objectives, or (b) conduct studies leading to an approved less restrictive site specific objective for ammonia. If it is determined that there is an immediate threat or impairment of beneficial uses due to ammonia, the objectives in Tables 3-2 and 3-4 of Attachment 4 shall apply and the timing of compliance will be determined on a case-by-case basis.

2. There shall be no chronic toxicity in ambient waters as a result of the waste discharged.

   If the chronic toxicity in the receiving water downstream of the discharge point during three consecutive months exceeds 1.0 TU_c in a critical life stage test, the Discharger shall determine if the cause of the exceedance is the wastes discharged. If it is determined that the wastes discharged caused the exceedance, the Discharger shall conduct a toxicity identification evaluation (TIE). The TIE shall include all reasonable steps to identify the sources of toxicity. Once the sources are identified, the Discharger shall take all reasonable steps to reduce toxicity to meet the objective.

II. PRETREATMENT REQUIREMENTS

A. This Order includes the Discharger's pretreatment program as previously submitted to this Regional Board. Any change to the program shall be reported to the Regional Board and USEPA in writing and shall not become effective until approved by the Executive Officer and the USEPA Regional Administrator.

B. The Discharger shall implement and enforce its approved pretreatment program. The Discharger shall be responsible and liable for the performance of all pretreatment requirements contained in Federal Regulations 40 CFR Part 403, including subsequent regulatory revisions thereof. Where Part 403 or subsequent revision places mandatory actions upon the Discharger as Control Authority but does not specify a timetable for completion of the actions, the Discharger shall complete the required actions within six months from the effective date of this Order or the effective date of the Part 403 revisions, whichever comes later. For violations of pretreatment requirements, the Discharger shall be subject to enforcement actions, penalties, fines, and other remedies by the Regional Board, USEPA, or other appropriate parties, as provided in the Federal Clean Water Act. The Regional Board or USEPA may initiate enforcement action against an industrial user for non-compliance with acceptable standards and requirements as provided in the Federal Clean Water Act and/or the California Water Code.

C. The Discharger shall enforce the requirements promulgated under Sections 307(b), 307 (c), 307(d), and 402(b) of the Federal Clean Water Act. The Discharger shall cause industrial users subject to the Federal Categorical Standards to achieve compliance no later than the date specified in those requirements or, in the case of a new industrial user, upon commencement of the discharge.

D. The Discharger shall perform the pretreatment functions as required in 40 CFR Part 403 including, but not be limited to:

(i) Implement the necessary legal authorities as provided in 40 CFR 403.8 (f) (1);

(ii) Enforce the pretreatment requirements under 40 CFR 403.5 and 403.6;

(iii) Implement the programmatic functions as provided in 40 CFR 403.8 (f) (2); and

(iv) Provide the requisite funding of personnel to implement the pretreatment program as provided in 40 CFR 403.8 (f) (3).

E. The Discharger shall submit annually a report to the Regional Board, the SWRCB, and the USEPA Region 9, describing the discharger's pretreatment activities over the previous twelve months. In the event the Discharger is not in compliance with any conditions or requirements of this permit, then the Discharger will also include the

reasons for noncompliance and state how and when the Discharger shall comply with such conditions and requirements. This annual report is due on March 1 of each year and shall contain, but not be limited to, the information required in the attached Requirements for Pretreatment Annual Report (Attachment P) or approved revised version thereof.

III. REQUIREMENTS AND PROVISIONS

A. This order includes the attached Standard Provisions and General Monitoring and Reporting Requirements (Standard Provisions) (Attachment N). If there is any conflict between provisions stated herein and the Standard Provisions, those provisions stated herein prevail.

B. This Order includes the attached Monitoring and Reporting Program (Attachment T). If there is any conflict between provisions stated in Monitoring and Reporting Program and the Standard Provisions, those provisions stated in the former prevail.

C. The Discharger shall comply with the requirements of the State Water Resources Control Board's General NPDES Permit No. CAS000001 and Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities (Order No. 97-03-DWQ) (Attachment 3).

D. The Discharger shall comply with all applicable water quality objectives for the Los Angeles River, including the toxic criteria in 40 CFR Part 131.36.

E. The Discharger shall provide standby or emergency power facilities and/or storage capacity or other means so that in the event of plant upset or outage due to power failure or other causes, the discharge of raw or inadequately treated sewage does not occur.

F. This Order may be modified, in accordance with the provisions set forth in 40 CFR Parts 122 and 124, to include requirements for the implementation of the watershed management approach and/or for the addition of a limitation for phosphorous.

G. This permit may be modified according to 40 CFR Part 122.62 if new regulations are adopted by the State of California, including the Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (California Toxics Rule) and implementation policies (State's Toxics Standards Implementation Policy).

H. This Order may also be modified, revoked, and reissued or terminated in accordance with the provisions of 40 CFR Parts 122.44, 122.62 to 122.64, 125.62, and 125.64. Causes for taking such actions include, but are not limited to, failure to comply with any condition of this order and permit, endangerment to human health, or the environment resulting from the permitted activity.

I. The Department of Recreation and Parks shall notify the Executive Officer in writing no later than six months prior to planned addition of any chemical to the lakes which may be toxic to aquatic life. Such notification shall include but not limited to:

a. Name and general composition of the chemical;
b. Estimated frequency of use: and ,
c. Recommended concentration and estimated quantities to be used.

IV. EXPIRATION DATE

This Order expires on May 10, 2003.

The Discharger must file a Report of Waste Discharge in accordance with Title 23, California Code of Regulations, not later than 180 days in advance of such date as application for issuance of new waste discharge requirements.

V. RESCISSION

Order No. 91-102, adopted by this Regional Board on September 9, 1991, is hereby rescinded, except for enforcement purposes.

I, Dennis Dickerson, Executive Officer, do hereby certify that the foregoing is a full, true and correct copy of an order adopted by the California Regional Water Quality Control Board, Los Angeles Region, on June 15, 1998.

DENNIS DICKERSON
Executive Officer

/GS